ABSTRACT OF THE DISCLOSURE

This invention provides methods and compositions, e.g., to reduce interference from non-specific binding sample constituents in a migration shift assay. Interference due to non-specific binding of sample constituents to an affinity substance (e.g., an affinity molecule or a conjugate of an affinity molecule and a charged carrier molecule) is prevented by, e.g., binding the constituents to charged polymers such as heparin sulfate.

The present invention also provides methods to concentrate an analyte of interest with high concentration and to detect the analyte with high sensitivity, and further to optimize the reaction conditions for easily concentrating the analyte. Such objects of the present invention are attained, for example, by concentrating a complex of the analyte and a conjugate which is formed by contacting the analyte in a sample with an affinity molecule bound to a charged carrier molecule such as DNA.